

REMARKS

Reconsideration of this application, as amended, is respectfully requested. By this Amendment, claims 1, 3 and 6 are being amended and new claims 9-16 are being added to more particularly point out and distinctly claim the subject invention. The addition of "new matter" has been scrupulously avoided. Claims 1-16 remain in this case.

This Amendment is accompanied by a Request for Continued Examination and the associated fee. Accordingly, entry of this Amendment and further examination are requested.

In the last Office Action, claims 1, and 5-8 were rejected under 35 U.S.C. 103(a) as allegedly obvious over Desjoyaux (FR 2,765,909) in view of Sijpesteijn (U.S. Patent No. 5,215,802); claim 2 was rejected on the same grounds, further in view of Raymond (U.S. Patent No. 5,007,222); and claims 3 and 4 were rejected on the same grounds as claim 1, further in view of Taylor et al. (U.S. Patent No. 4,514,104). These rejections, to the extent that they are deemed applicable to the claims as now presented, are respectfully, but most strenuously traversed.

The present invention is directed to panels for constructing swimming pools. More particularly, the present invention relates to panels of the type described in French patent 2,765,909 of which the current Applicants are also the proprietor.

Each panel has a prefabricated structure comprising a flat surface of rectangular over all shape delimited by a peripheral frame comprising planar vertical flanges and horizontal flanges. Each flange extends from a respective edge of said flat surface. One of the planar vertical flanges has spaced apart and distributed over its height, fixing arrangements able to collaborate with complementary arrangements on an other vertical flange of an adjacent panel.

According to Applicant's earlier French patent (see also corresponding U.S. Patent 6,295,771), the fixing arrangements comprise tongues (1j) extending horizontally outward from the one vertical flange and having a catching region (1j2) collaborating with complementary openings formed in the other vertical flange of the adjacent panel. This method of assembly affords significant advantages over earlier assembly systems; however, it is still not entirely satisfactory. For example, in order to engage the tongues in the openings, it is necessary to present the structure obliquely and to fold it through an angle, with the assembly flanges contiguous. It is also often necessary to use a tool of the pliers type to make sure that the

tongues clip perfectly into the openings. This earlier assembly approach also requires the provision of special arrangements to ensure sealing which can create problems of fit tolerance which, after assembly, create problems of flatness on the flat surfaces of the swimming pool.

Starting out from this state of the art, still with the goal of being able to assemble the various panels instantly without the need to employ any attached assembly members, the problem that the current invention sets out to solve is that of simplifying this method of assembly while at the same time having the goal of obtaining a perfectly sealed assembly and perfect flatness after assembly with the possibility of achieving assembly entirely automatically.

To solve this problem, the present invention provides panels having a unique coupling structure. According to amended claim 1, each panel has a fixing arrangement comprising anchoring tabs formed in a thickness of one planar vertical flange and able to be engaged in longitudinal centering and guiding shapes belonging to the other flange. Each of the tabs has, on an outer face, anchoring roughnesses able to collaborate with complementary roughnesses after engagement in the longitudinal centering and guiding shapes, to ensure non-dismantable self-locking. The centering and guiding shapes constitute longitudinally spaced apart wells or sleeves formed as an overspill from a bearing face of the other flange. A longitudinal cross section of the wells or sleeves corresponds approximately to that of the tabs. A part of the bearing face of the other flange from which the sleeves or wells are formed has the complementary roughnesses so that when the tabs have been engaged in the sleeves by a bearing force exerted in a plane parallel to the vertical flanges, a wedging effect is produced for imbricating the roughnesses. Further, a profiled shape provided along an entire height of the vertical flanges protrudes beyond one of said vertical flanges at a level of the flat surface of the panel, to ensure sealing once the tabs have been engaged in the sleeves or wells.

The earlier French patent does not teach, disclose or suggest any of the above-highlighted features of the claimed panel coupling arrangement or the claimed profiled shape. Likewise, the secondary references, either alone or in combination with the teachings of the primary reference, fail to teach or suggest the specified features of the swimming pool panel coupling arrangements of the present invention.

Sijpesteijn is directed to a method for constructing floor mats by coupling together parallel elongated rails. As depicted in Fig. 1 of this patent, each rail 2 comprises a receiving portion 3 for receiving a tread member. Receiving portion 3 has a flat bottom surface 10 delimited by upstanding edges 4, 4'. These edges can be considered to correspond to Applicant's claimed planar vertical flanges. Vertical edge 4 is connected by an L-shaped intermediate member 9 to a T-shaped member 8 having an insertion end portion 7. Protrusions 13 are provided on an inner face of T-shaped member 8.

The other vertical edge 4' is part of a U-shaped member 6 extending along the entire length of the rail 2 and forming a female-type connecting element which mates with the insertion end portion 7 of the T-shaped male-type connecting member 8. Protrusions 13 are provided on an inner face of the outer component of the U-shaped member 6. The protrusions on the U-shaped member and T-shaped member create a snap-lock connection when member 7 is inserted into the cavity formed by U-shaped member 6.

In contrast to the claimed invention, insertion end portion 7 of this reference is not formed in a thickness of planar vertical member 4 but rather is part of a T-shaped extension mounted by an intermediate L-shaped member 9 to an outside face of vertical edge 4. Further protrusions 13 are located on an inner face, not an outer face of insertion end portion 7. Also U-shaped member 6 extends along the entire length of the rail 2 (see column 3, lines 10-11 of this reference), and, thus, does not constitute the claimed longitudinal centering and guiding shapes nor longitudinally spaced apart wells or sleeves. Moreover protrusions 13 of U-shaped member 6 are not located on the bearing face of the vertical flange from which the sleeves or wells are formed.

Applicant respectfully submits that there is no suggestion in these references themselves as to why or how they could be combined. Not only are the fields of endeavor (i.e. panels for swimming pools vs. floor mats) entirely different but also the full rail length connecting approach of the secondary reference is totally foreign from the discrete spaced apart coupling arrangement of the primary French patent.

Moreover, even if the T-shaped projection and U-shaped channel coupling of the secondary reference was applied to the swimming pool panels of the primary reference, the specific coupling features of amended claim 1 would still not result.

Dependent claims 2-8 are allowable for the same reasons as independent claim 1 from which they all ultimately depend, as well as for their additional limitations.

With regard to claim 3 which specifies that the anchoring tabs result from two parallel, full depth cut-outs formed at right angles from a longitudinal edge of the one vertical flange, the Examiner refers to Figure 2 of the Taylor et al. patent. However, the tabs apparently referred to by the Examiner are not used to couple adjacent vertical members. Rather, each side wall is provided with a full height longitudinally extending, limited depth channel 70 and an outwardly projecting guide 72. Guide 72 fits within a channel 70 of an adjacent side wall as shown in the cross sectional view of Figure 3 of this reference. Accordingly, there is no suggestion in the Taylor et al. reference of Applicant's claimed anchoring tabs for coupling adjacent vertical flanges.

Like claim 4, new independent claim 9 specifies that one of the vertical flanges of a panel has distributed over its height, fixing tabs each resulting from two parallel cut-outs formed perpendicularly from a free edge of the flange. The tabs are designed to be engaged in spaced apart longitudinal centering and guiding sleeves associated with another vertical flange of an adjacent structure. Anchoring asperities on an outside face of each tab cooperate with complementary asperities formed directly on a part of the other vertical flange delimited by side edges of individual sleeves. This combination of features is conspicuously absent from the teachings of the applied prior art, considered alone or in combination. Further, new claim 9 specifies that a bead formed at a juncture of the adjacent vertical flanges with the flat surface of the prefabricated structure provides a sealing profile after engagement of the tabs and the sleeves. The latter feature which is important for forming a sealed swimming pool structure is not suggested by the prior art. In fact, Sijpesteijn provides holes 16 in his mat structure for drainage of water.

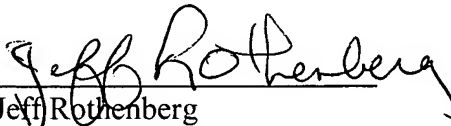
Dependent claims 10-16 are allowable for the same reasons as independent claim 9 from which they all ultimately depend, as well as for their additional limitations.

In conclusion, Applicant submits that the combination of references is, at best, tenuous and would still not produce the invention as presently claimed. Applicant has devised a unique coupling and sealing arrangement for swimming pool panels which provides a significant advance in this art worthy of patent protection.

If it would advance the prosecution of this application, the Examiner is respectfully requested to contact Applicant's attorney at the below indicated telephone.

A Request for a One-Month Extension of Time and the accompanying extension fee are enclosed.

Respectfully submitted,



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